

इंटरनेट

मानक

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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

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“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

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“Step Out From the Old to the New”

IS 13518 (1992): End suction centrifugal pumps (rating 16 bar) - Designation, nominal duty point and dimensions [MED 20: Pumps]



“ज्ञान से एक नये भारत का निर्माण”

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

सिरा-चूषण अपकेन्द्री पंप (रेटिंग 16 बार) — पदनाम,
सांकेतिक कार्य बिंदू और आयाम

Indian Standard

END-SUCTION CENTRIFUGAL PUMPS
(RATING 16 BAR) — DESIGNATION, NOMINAL
DUTY POINT AND DIMENSIONS

UDC 621.671

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

September 1992

Price Group 1

NATIONAL FOREWORD

This Indian Standard which is identical to ISO 2858 : 1975 'End-suction centrifugal pumps (rating 16 bar) — Designation, nominal duty point and dimensions' issued by the International Organization for Standardization (ISO), was adopted by the Bureau of Indian Standards on the recommendations of Pumps Sectional Committee (HMD 20) and approval of the Heavy Mechanical Engineering Division Council.

The text of ISO Standard has been approved for publication as Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker in ISO Standard while in Indian Standards, the current practice is to use point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards which are to be substituted in their place are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO R228 (Since published as ISO 228-1 : 1982 Pipe threads where pressure tight joints are not made on the threads— Part 1 : Designation dimensions and tolerances	IS 2643 (Part 1) : 1975 Dimensions for pipe threads for fastening purposes : Part 1 Basic profile and dimensions (<i>first revision</i>)	Not equivalent
	IS 2643 (Part 2) : 1975 Dimensions for pipe threads for fastening purposes : Part 2 Tolerances (<i>first revision</i>)	do
	IS 2643 (Part 3) : 1975 Dimensions for pipe threads for fastening purposes : Part 3 Limits of sizes (<i>first revision</i>)	do
ISO 228-2 : 1987 Pipe threads where pressure tight joints are not made on the threads— Part 2 : Verification by means of limit gauges)	IS 10216 : 1988 Gauging practice for pipe threads where pressure tight joints are not made on threads	Identical
ISO 496 : 1973	IS 2031 : 1987 Driving and driven machines — Shaft heights (<i>first revision</i>)	Identical
ISO/R775 : 1969	IS 3688 : 1977 Dimensions for shaft ends (<i>first revision</i>)	Identical
ISO 3069 : 1974	IS 11382 : 1986 Dimensions for stuffing box, cavities of end-suction process pumps	Not equivalent

The technical committee responsible for the preparation of this Indian Standard has reviewed the provisions of the following ISO standard and decided that they are acceptable for use in conjunction with this standard:

ISO 2084 (Since published as ISO 7005-2 Metallic flanges — Part 2 : Cast iron flanges and ISO 7005-3 Metallic flanges: Part 3 — Copper alloy and composite flanges)

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

END-SUCTION CENTRIFUGAL PUMPS (RATING 16 BAR) — DESIGNATION, NOMINAL DUTY POINT AND DIMENSIONS

1 SCOPE AND FIELD OF APPLICATION¹⁾

This International Standard specifies the principal dimensions and nominal duty point of end-suction centrifugal pumps having a maximum operating rating of 16 bar.²⁾

2 REFERENCES

ISO/R 228, *Pipe threads where pressure-tight joints are not made on the threads (1/8 inch to 6 inches).*

ISO 496, *Driving and driven machines — Shaft heights.*

ISO/R 775, *Cylindrical and 1/10 conical shaft ends.*

ISO 3069, *End-suction centrifugal pumps — Dimensions of cavities for mechanical seals and for soft packing.* (Supplement to this International Standard.)

NOTE — ISO 2084 can be used for the dimensions of flanges.

3 DESIGNATION

The pump designation comprises three numbers : the first corresponds to the inlet diameter, the second to the outlet diameter and the third to the nominal diameter of the impeller.

Example of designation

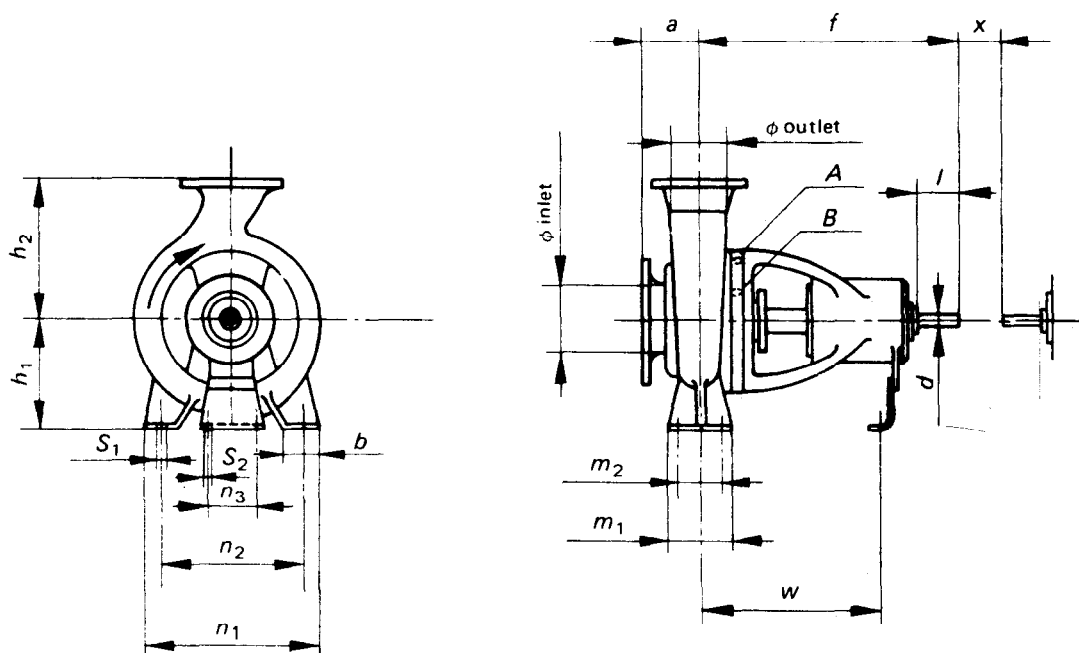
A centrifugal pump with an inlet diameter of 80 mm, an outlet diameter of 50 mm and a nominal impeller diameter of 250 mm is designated 80-50-250.

4 NOMINAL DUTY POINT AND DIMENSIONS

See figure below and table on page 2.

5 STATIC TEST PRESSURE

Static test pressure shall be 1,5-times the maximum discharge pressure but shall not exceed 24 bar. The relation between cold test pressure and hot operating pressure shall be the subject of agreement between manufacturer and user.



NOTE — Tapping points

All connections shall be in accordance with ISO/R 228.

A : Connection for cooling or heating supply to be 3/8 in.

B : Stuffing box tapping points to be as large as possible but not to exceed 1/2 in.

1) The manufacturer shall be consulted about the temperature limitation.

2) 1 bar = 0,1 MPa.

TABLE — Nominal duty point and dimensions

Size designation ²⁾			Nominal duty point				Dimensions in millimetres																
φ inlet mm	φ outlet mm	φ impeller (nom- inal) mm	ⁿ 1 450 min ⁻¹		ⁿ 2 900 min ⁻¹		Pump				Support					w	Clearance holes for bolts		Shaft end		x ¹⁾		
			Q m ³ /h	H m	Q m ³ /h	H m	a	f	h ₁	h ₂	b	m ₁	m ₂	n ₁	n ₂		n ₃	S ₁	S ₂	d		l	
50	32	125	6,3	5	12,5	20	80	385	112	140	50	100	70	190	140	110	285	M 12	M 12	24	50	100	
50	32	160		8		32			132	160				240	190					32	80		
50	32	200		12,5		50			160	180				320	250					42	110		
50	32	250		20		80			225	280				400	315					48	140		
65	50 (40) ³⁾	125	12,5	5	25	20	80	385	112	140	50	100	70	210	160	110	285	M 12	M 12	24	50	100	
65	50 (40) ³⁾	160		8		32			132	160				240	190					32	80		
65	40	200		12,5		50			160	180				265	212					42	110		
65	40	250		20		80			225	280				320	250					48	140		
65	40	315		32		125			345	280				400	315					48	140		
80	65 (50) ³⁾	125	25	5	50	20	100	385	132	160	50	100	70	240	190	110	285	M 12	M 12	24	50	100	
80	65 (50) ³⁾	160		8		32			160	200				265	212					32	80		
80	50	200		12,5		50			225	280				320	250					42	110		
80	50	250		20		80			345	280				400	315					48	140		
80	50	315		32		125			400	315				480	370					48	140		
100	80 (65) ³⁾	125	50	5	100	20	125	530	180	225	65	125	95	280	212	110	370	M 12	M 12	24	50	100	
100	80 (65) ³⁾	160		8		32			200	250				360	280					32	80		
100	65	200		12,5		50			280	315				400	315					42	110		
100	65	250		20		80			355	355				480	370					48	140		
100	65	315		32		125			435	355				500	400					48	140		
125	80	160	80	8	160	32	125	530	225	280	65	125	95	320	250	110	370	M 12	M 12	32	80	140	
125	80	200		12,5		50			250	315				400	315					42	110		
125	80	250		20		80			355	355				480	370					48	140		
125	80	315		32		125			435	355				500	400					48	140		
125	80	400		50		160			500	400				580	450					48	140		
125	100	200	100 ⁴⁾	12,5	200 ⁴⁾	50	140	530	280	355	80	160	120	360	280	110	370	M 16	M 12	32	80	140	
125	100	250		20		80			355	400				480	370					42	110		
125	100	315		32		125			435	355				500	400					48	140		
125	100	400		50		160			500	400				580	450					48	140		
150	125	250	200	20	400	80	140	530	315	400	100	200	150	500	400	110	370	M 16	M 12	42	110	140	
150	125	315		32		125			435	355				500	400					48	140		
150	125	400		50		160			500	400				580	450					48	140		
200	150	250	315 ⁴⁾	20	400	80	160	530	315	400	100	200	150	500	400	110	370	M 20	M 16	48	110	180	
200	150	315		32		125			435	355				500	400					48	110		
200	150	400		50		160			500	400				580	450					48	110		

NOTES

a) The forms and dimensions not specified are left to the discretion of the manufacturer.

b) Rotation is clockwise when viewed from the driven end.

1) Gap necessary for the withdrawal of the rotor toward the driven side.

2) Flange rating 16 bar.

3) Branch sizes in brackets to be valid for a limited period only.

4) These two values are alternatives.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.